



(X = ENGAGED CLUTCH)

$$\frac{\text{RING GEAR}}{\text{SUN GEAR}}$$

RATIO SPREAD	11.23
RATIO STEPS	
REV#1/1	-0.50
1/2	1.90
2/3	1.41
3/4	1.32
4/5	1.76
5/6	1.50
6/7	1.11
7/8	1.09

FIG. 1b

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FIG. 2a

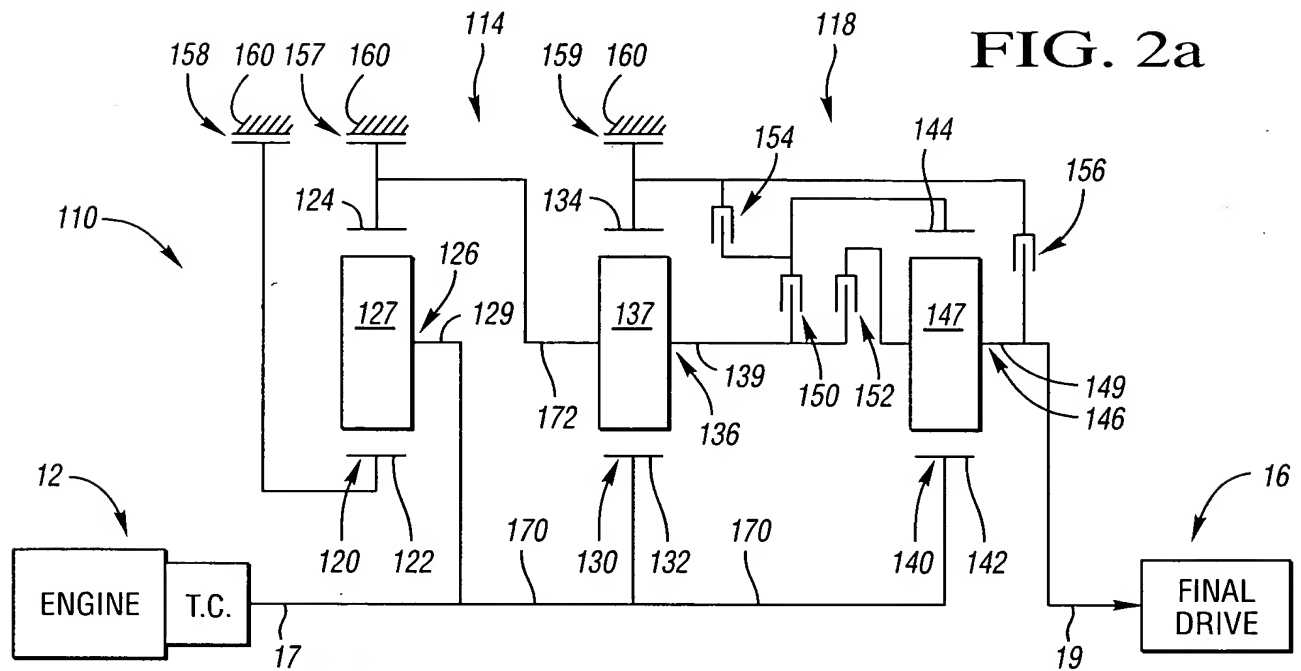


FIG. 2b

	RATIOS	150	152	154	156	157	158	159
REVERSE 2	-5.01			X		X		
REVERSE 1	-1.68				X	X		
NEUTRAL	0.00							X
1	4.02			X				X
2	2.68		X					X
3	1.89	X						X
4	1.00	X	X					
5	0.68	X					X	
6	0.60		X				X	
7	0.56			X			X	
8	0.49				X		X	

(X = ENGAGED CLUTCH)

RING GEAR TOOTH RATIO:  $\frac{N_{R1}}{N_{S1}} = 1.51$ ,  $\frac{N_{R2}}{N_{S2}} = 1.67$ ,  $\frac{N_{R3}}{N_{S3}} = 3.02$

RATIO SPREAD	8.27
RATIO STEPS	
REV#2/1	-0.42
1/2	1.50
2/3	1.42
3/4	1.89
4/5	1.50
5/6	1.11
6/7	1.08
7/8	1.15

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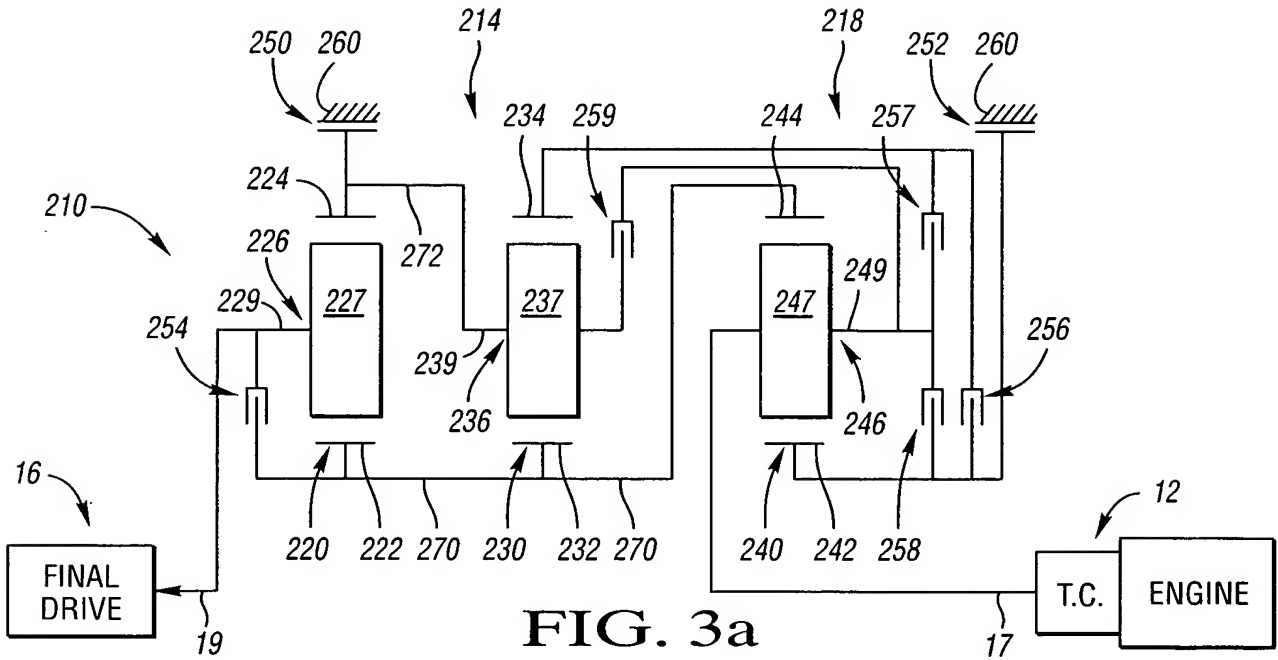


FIG. 3a

FIG. 3b

	RATIOS	250	252	254	256	257	258	259
REVERSE	-2.66	X				X		
NEUTRAL	0.00	X						
1	4.01	X					X	
2	2.67	X	X					
3	1.79	X			X			
4	1.22		X		X			
5	1.00				X			X
6	0.89		X					X
7	0.78		X			X		
8	0.67		X	X				

(X = ENGAGED CLUTCH)

$\frac{\text{RING GEAR}}{\text{SUN GEAR}}$  TOOTH RATIO:  $\frac{N_{R1}}{N_{S1}} = 3.01$ ,  $\frac{N_{R2}}{N_{S2}} = 1.51$ ,  $\frac{N_{R3}}{N_{S3}} = 2.00$

RATIO SPREAD	6.01
RATIO STEPS	
REV/1	-0.66
1/2	1.50
2/3	1.49
3/4	1.47
4/5	1.22
5/6	1.12
6/7	1.13
7/8	1.17

FIG. 4a

FIG. 4b

	RATIOS	350	352	354	356	357	358	359
REVERSE 2	-2.25	X						X
REVERSE 1	-0.73			X		X		
NEUTRAL	0.00					X		
1	5.62					X		X
2	3.23				X	X		
3	2.29				X			X
4	1.64				X		X	
5	1.00		X		X			
6	0.71		X				X	
7	0.63		X					X
7'	0.50			X			X	
8	0.41			X				X

(X = ENGAGED CLUTCH)

$$\frac{\text{RING GEAR}}{\text{SUN GEAR}} \text{ TOOTH RATIO: } \frac{N_{R1}}{N_{S1}} = 2.40, \frac{N_{R2}}{N_{S2}} = 2.50, \frac{N_{R3}}{N_{S3}} = 2.52$$

RATIO SPREAD	13.60
RATIO STEPS	
REV#2/1	-0.40
1/2	1.74
2/3	1.41
3/4	1.40
4/5	1.64
5/6	1.40
6/7	1.42
7/8	1.22

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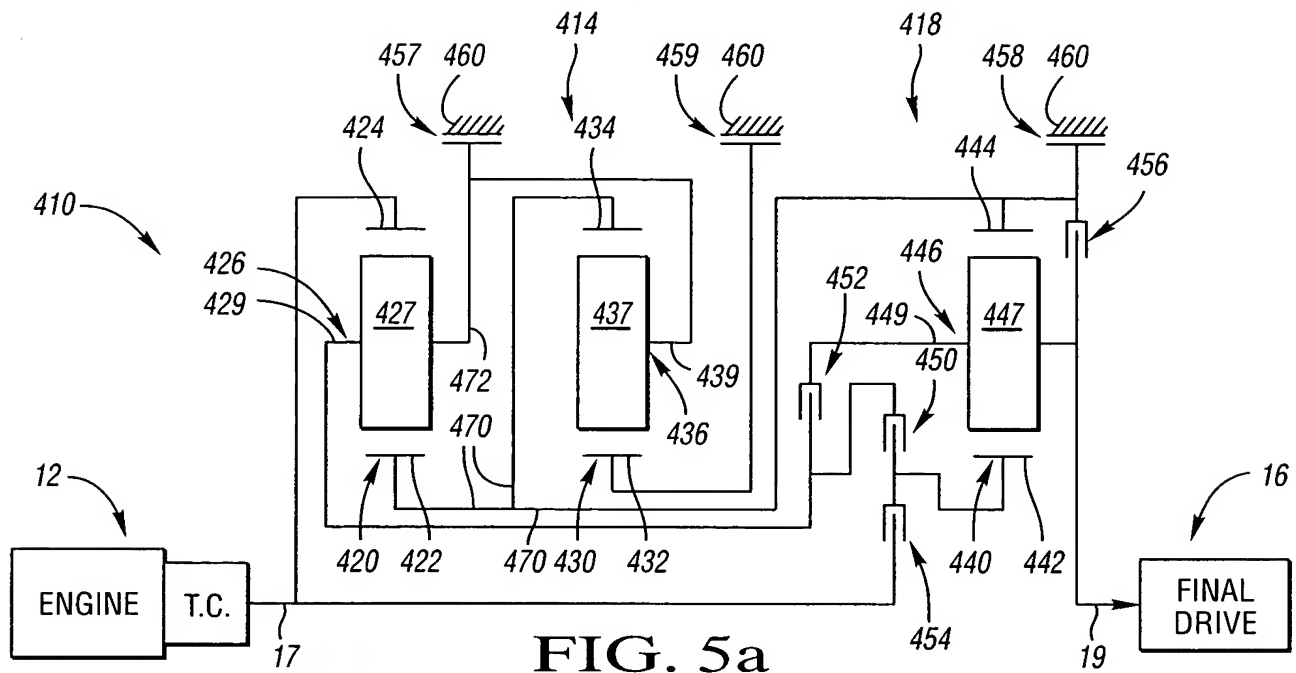


FIG. 5a

FIG. 5b

	RATIOS	450	452	454	456	457	458	459
REVERSE 3	-1.98			X		X		
REVERSE 2	-1.10	X				X		
REVERSE 1	-0.66				X	X		
NEUTRAL	0.00						X	
1	4.16	X					X	
2	2.50			X			X	
3	1.66		X				X	
4	1.00	X	X					
5	0.71		X					X
6	0.62			X				X
7	0.56	X						X
8	0.50				X			X

(X = ENGAGED CLUTCH)

RING GEAR TOOTH RATIO:  $\frac{N_{R1}}{N_{S1}} = 1.66$ ,  $\frac{N_{R2}}{N_{S2}} = 2.31$ ,  $\frac{N_{R3}}{N_{S3}} = 1.50$

RATIO SPREAD	8.37
RATIO STEPS	
REV#3/1	-0.47
1/2	1.66
2/3	1.50
3/4	1.66
4/5	1.40
5/6	1.14
6/7	1.10
7/8	1.14

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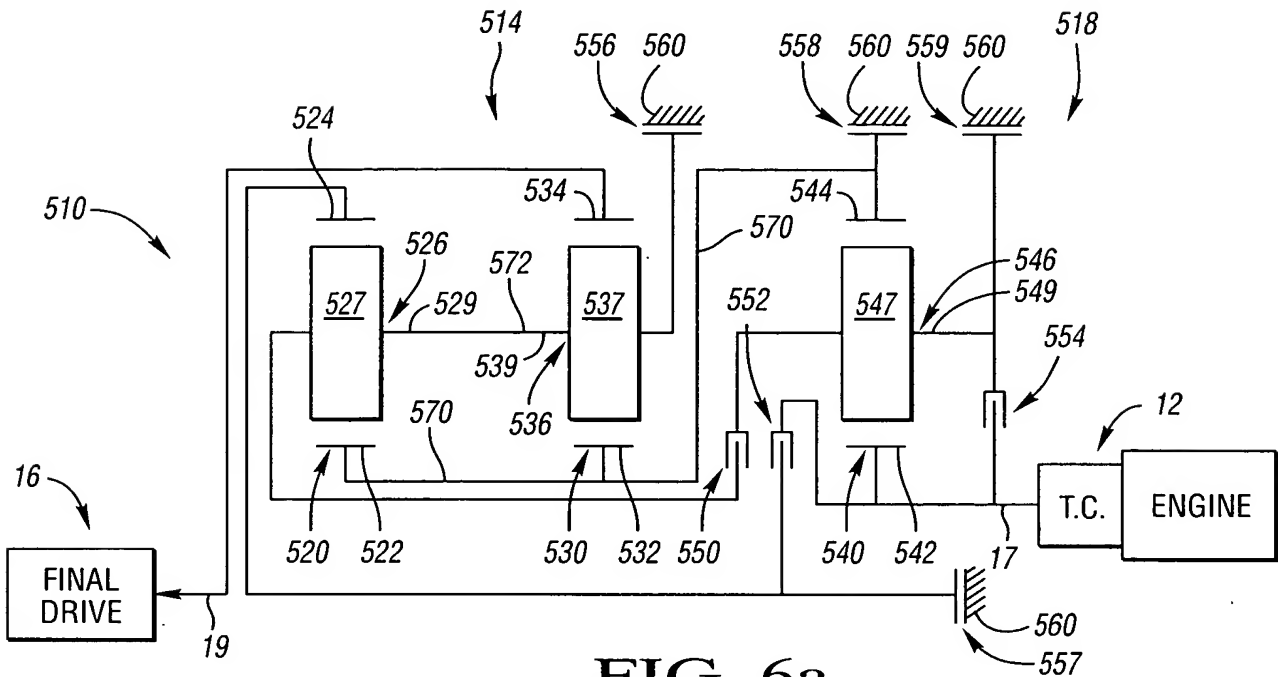


FIG. 6a

FIG. 6b

	RATIOS	550	552	554	556	557	558	559
REVERSE 2	-6.00			X		X		
REVERSE 1	-1.51			X	X			
NEUTRAL	0.00					X		
1	9.02					X		X
2	4.53	X				X		
3	2.26	X			X			
4	1.50	X					X	
5	1.00	X	X					
6	0.86		X				X	
7	0.78		X					X
8	0.64		X		X			

(X = ENGAGED CLUTCH)

$\frac{\text{RING GEAR}}{\text{SUN GEAR}}$  TOOTH RATIO:  $\frac{N_{R1}}{N_{S1}} = 2.34$ ,  $\frac{N_{R2}}{N_{S2}} = 1.51$ ,  $\frac{N_{R3}}{N_{S3}} = 1.50$

RATIO SPREAD	14.05
RATIO STEPS	
REV#2/1	-0.66
1/2	1.99
2/3	2.00
3/4	1.50
4/5	1.50
5/6	1.17
6/7	1.09
7/8	1.22

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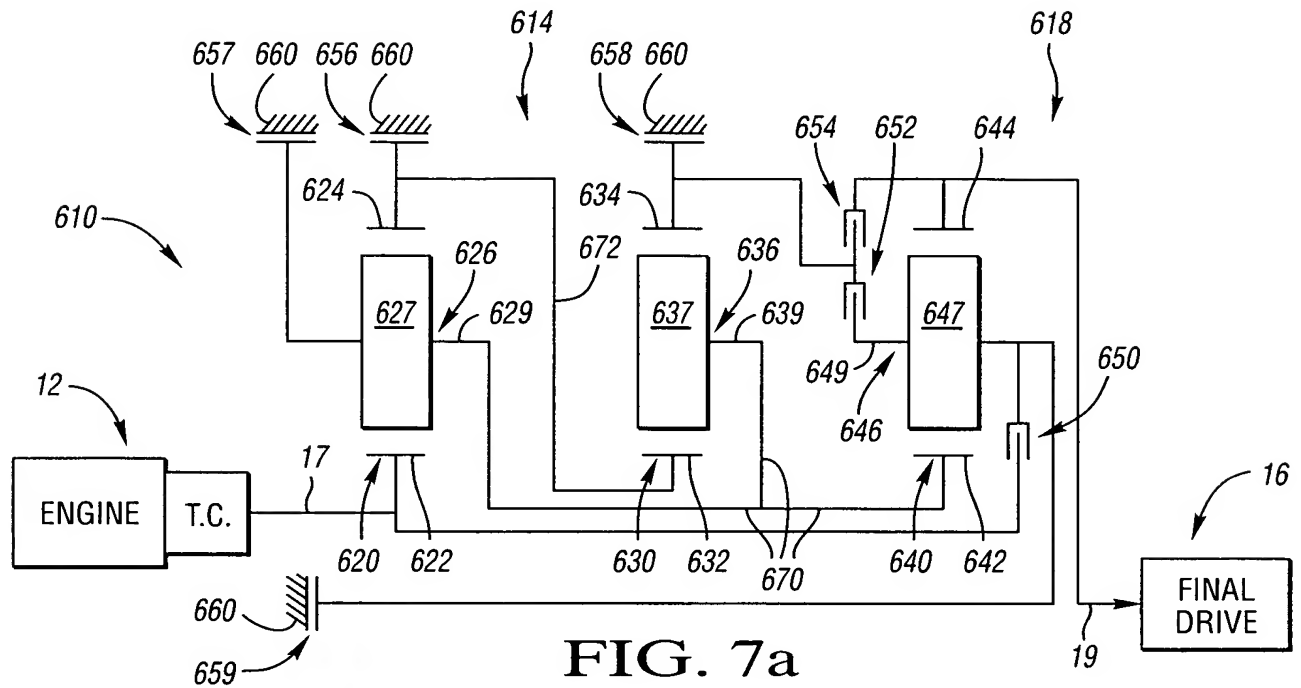


FIG. 7a

FIG. 7b

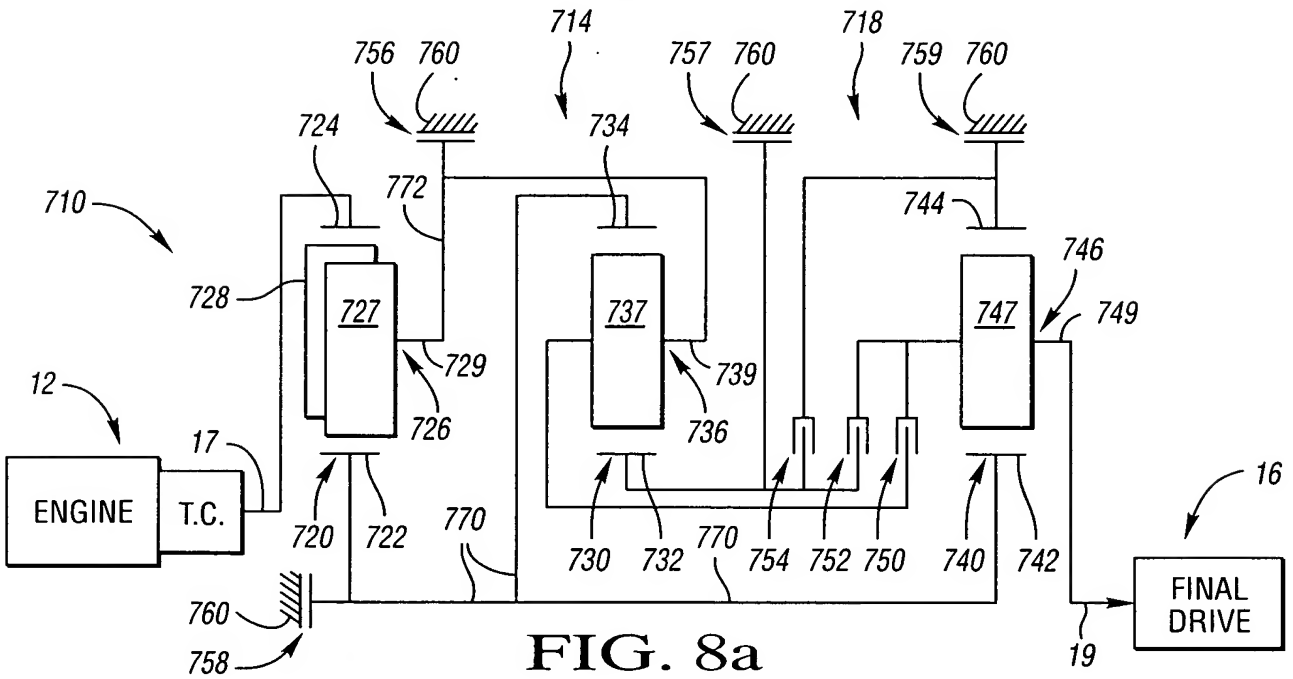
	RATIOS	650	652	654	656	657	658	659
REVERSE	-3.89				X			X
NEUTRAL	0.00							X
1	7.10			X				X
2	3.71		X					X
2'	3.39			X		X		
3	2.06		X			X		
3'	1.74			X	X			
4	1.45		X		X			
5	1.00	X	X					
6	0.72	X			X			
7	0.61	X						X
8	0.52	X					X	

(X = ENGAGED CLUTCH)

RING GEAR TOOTH RATIO:  $\frac{N_{R1}}{N_{S1}} = 1.51$ ,  $\frac{N_{R2}}{N_{S2}} = 2.25$ ,  $\frac{N_{R3}}{N_{S3}} = 1.55$

RATIO SPREAD	13.60
RATIO STEPS	
REV/1	-0.55
1/2	1.91
2/3	1.80
3/4	1.42
4/5	1.45
5/6	1.39
6/7	1.19
7/8	1.16

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**FIG. 8a**

**FIG. 8b**

	RATIOS	750	752	754	756	757	758	759
REVERSE 2	-4.66		X		X			
REVERSE 1	-1.77			X	X			
NEUTRAL	0.00						X	
1	4.32		X				X	
2	2.63			X			X	
3	1.59	X					X	
4'	1.06				X			X
4	1.00	X		X				
5	0.82	X				X		
6	0.64	X						X
7	0.51					X		X
8	0.46	X						X

(X = ENGAGED CLUTCH)

RING GEAR / SUN GEAR TOOTH RATIO:  $\frac{N_{R1}}{N_{S1}} = 2.72$ ,  $\frac{N_{R2}}{N_{S2}} = 1.70$ ,  $\frac{N_{R3}}{N_{S3}} = 2.24$

RATIO SPREAD	9.47
RATIO STEPS	
REV#1/1	-0.41
1/2	1.64
2/3	1.66
3/4	1.59
4/5	1.21
5/6	1.30
6/7	1.25
7/8	1.12

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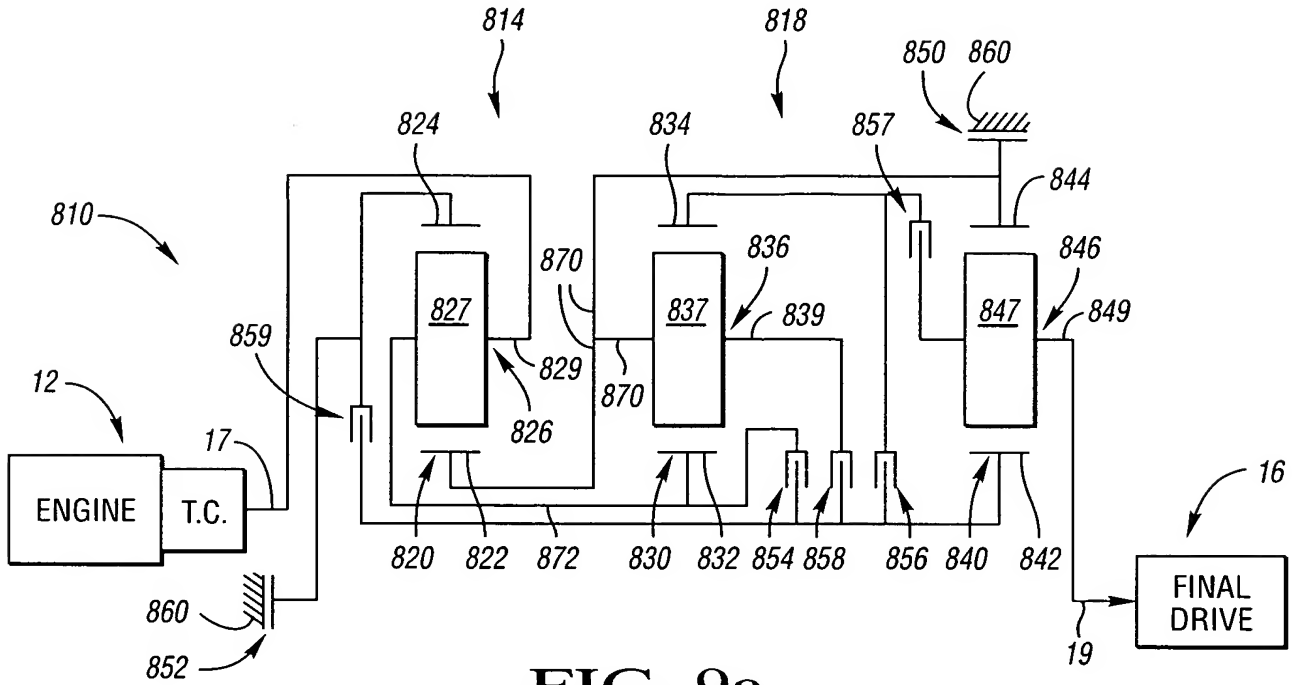


FIG. 9a

FIG. 9b

	RATIOS	850	852	854	856	857	858	859
REVERSE 2	-7.52	X			X			
REVERSE 1	-3.00	X				X		
NEUTRAL	0.00			X				
1	2.50	X		X				
2	1.50	X						X
3	1.00			X				X
4	0.66		X					X
5	0.52		X	X				
6	0.40		X				X	
7	0.37		X		X			
8	0.33		X			X		

$\frac{\text{RING GEAR}}{\text{SUN GEAR}}$  TOOTH RATIO:  $\frac{N_{R1}}{N_{S1}} = 3.00$ ,  $\frac{N_{R2}}{N_{S2}} = 1.51$ ,  $\frac{N_{R3}}{N_{S3}} = 1.50$

RATIO SPREAD	7.53
RATIO STEPS	
REV#1/1	-1.20
1/2	1.66
2/3	1.50
3/4	1.50
4/5	1.26
5/6	1.32
6/7	1.08
7/8	1.11

10/12

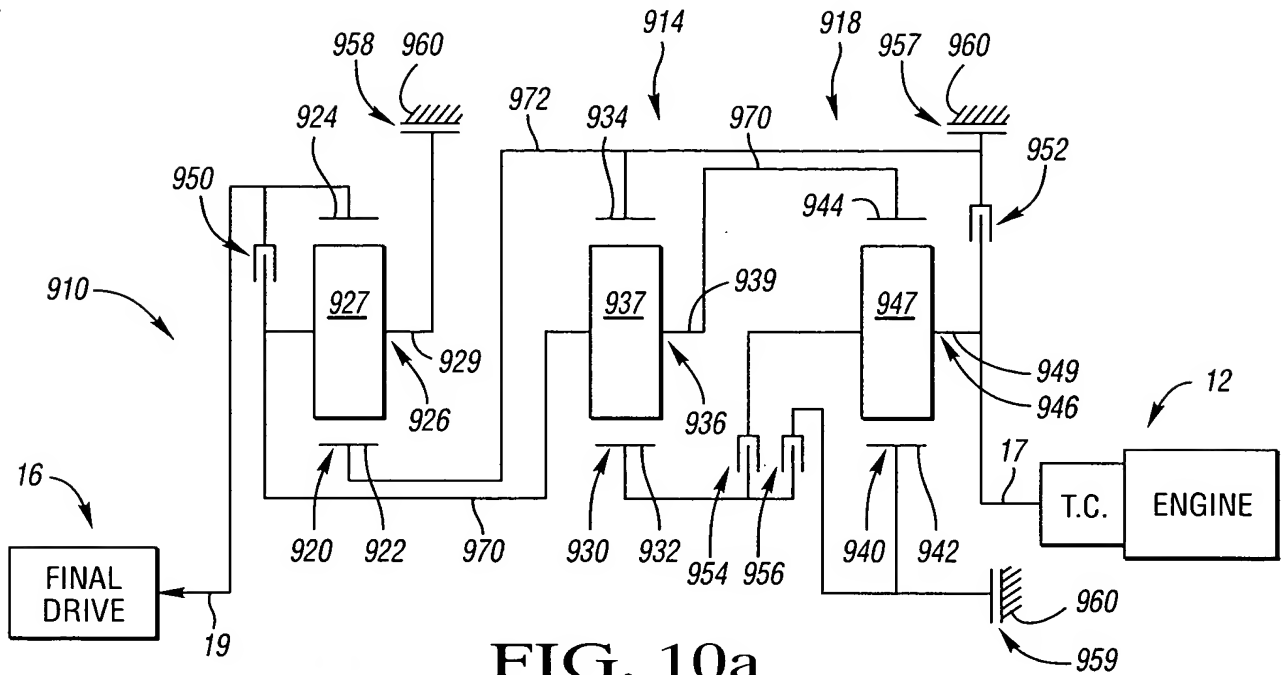


FIG. 10a

FIG. 10b

	RATIOS	950	952	954	956	957	958	959
REVERSE	-2.62		X				X	
NEUTRAL	0.00						X	
1	3.92			X			X	
2'	1.81			X		X		
2	1.44	X			X		X	
3	1.12				X	X		
4	1.00	X			X			
5	0.85				X			X
6	0.70		X					X
7	0.63	X						X
8	0.55		X					X
9	0.46					X		X

(X = ENGAGED CLUTCH)

RING GEAR  
SUN GEAR

TOOTH RATIO:  $\frac{N_{R1}}{N_{S1}} = 2.62$ ,  $\frac{N_{R2}}{N_{S2}} = 1.50$ ,  $\frac{N_{R3}}{N_{S3}} = 1.72$

RATIO SPREAD	8.56
RATIO STEPS	
REV/1	-0.67
1/2	2.17
2/3	1.61
3/4	1.32
4/5	1.22
5/6	1.10
6/7	1.14
7/8	1.21

FIG. 11a

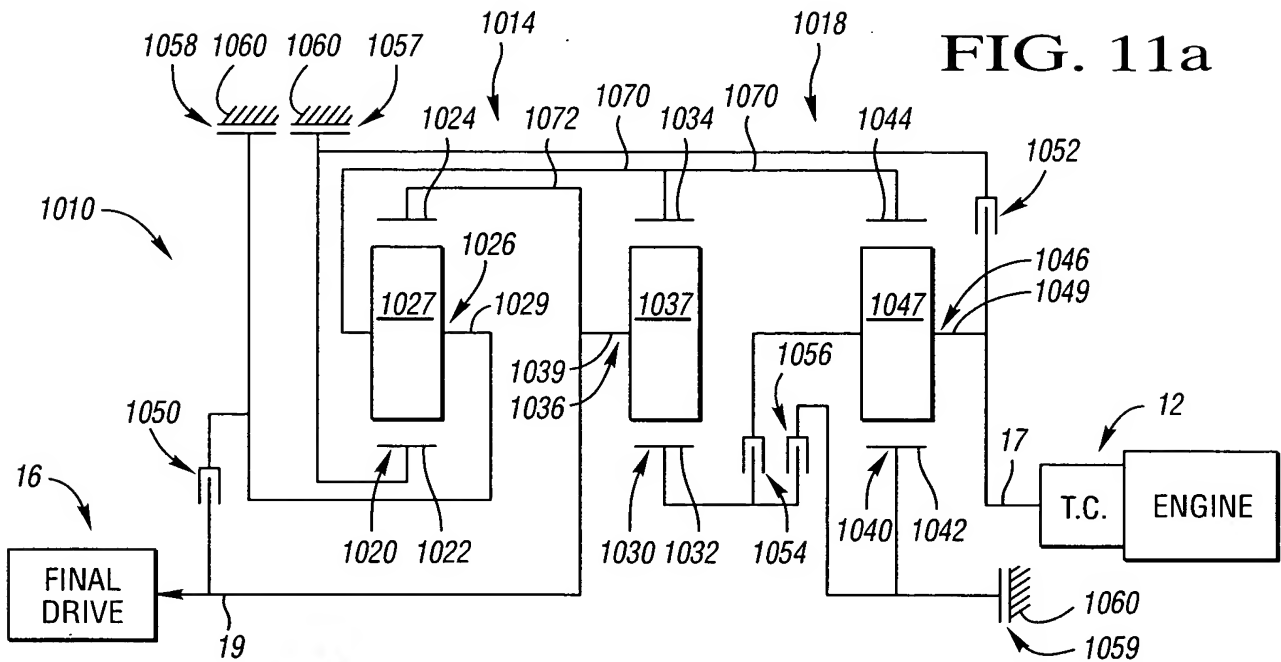


FIG. 11b

	RATIOS	1050	1052	1054	1056	1057	1058	1059
REVERSE	-1.73		X				X	
NEUTRAL	0.00						X	
1	3.96			X			X	
2	2.08			X		X		
3'	1.46				X		X	
3	1.17				X	X		
4	1.00	X			X			
5	0.85				X			X
6	0.70		X					X
7	0.63	X						X
8	0.52		X					X
9	0.40					X		X

(X = ENGAGED CLUTCH)

$$\frac{\text{RING GEAR}}{\text{SUN GEAR}} \text{ TOOTH RATIO: } \frac{N_{R1}}{N_{S1}} = 1.73, \frac{N_{R2}}{N_{S2}} = 2.96, \frac{N_{R3}}{N_{S3}} = 1.72$$

RATIO SPREAD	9.90
RATIO STEPS	
REV/1	-0.44
1/2	1.90
2/3	1.78
3/4	1.17
4/5	1.18
5/6	1.21
6/7	1.11
7/8	1.21
8/9	1.30

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FIG. 12a

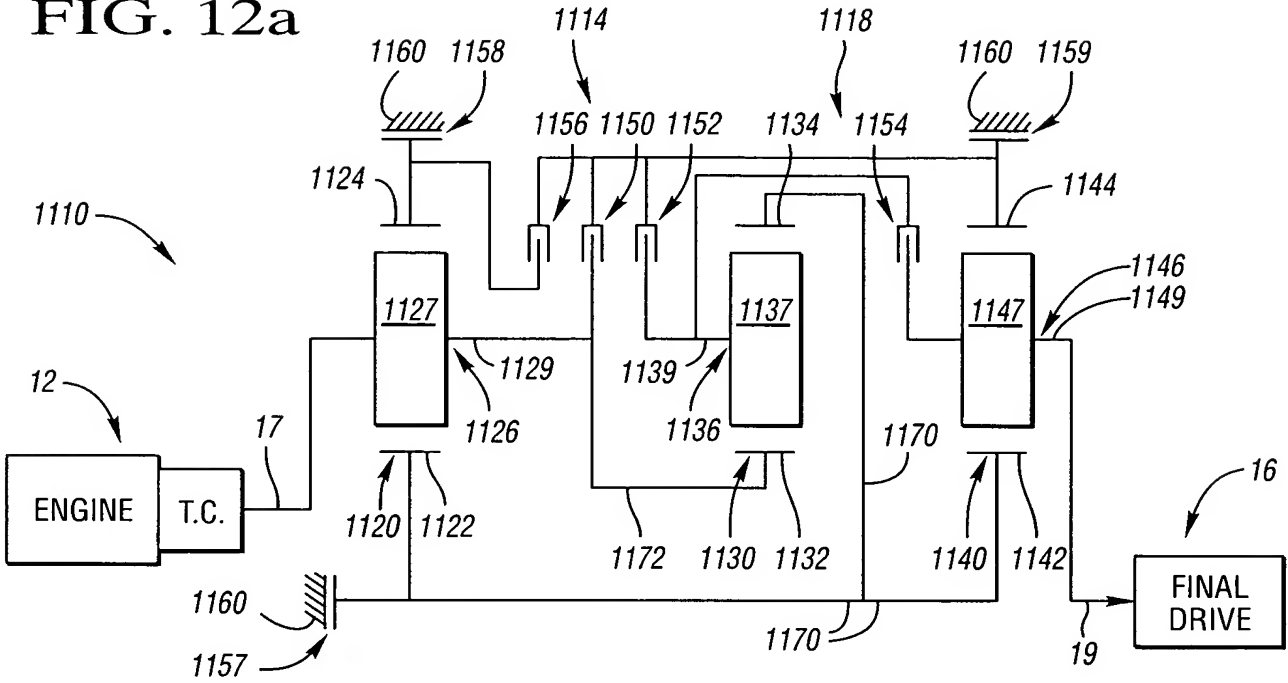


FIG. 12b

	RATIOS	1150	1152	1154	1156	1157	1158	1159
REVERSE 2	-3.75		X					X
REVERSE 1	-1.25			X				X
NEUTRAL	0.00		X					
1	4.17		X			X		
2	2.50			X		X		
3	1.67	X				X		
4	1.21				X	X		
5	1.00	X			X			
6	0.68				X		X	
7	0.48	X					X	
8	0.39			X			X	

(X = ENGAGED CLUTCH)

RING GEAR TOOTH RATIO:  $\frac{N_{R1}}{N_{S1}} = 1.50$ ,  $\frac{N_{R2}}{N_{S2}} = 2.65$ ,  $\frac{N_{R3}}{N_{S3}} = 1.50$

RATIO SPREAD	10.81
RATIO STEPS	
REV#2/1	-0.90
1/2	1.68
2/3	1.50
3/4	1.38
4/5	1.21
5/6	1.46
6/7	1.41
7/8	1.26